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PALEONTOLOGY.—*Fossil peccary remains from the upper Pliocene of Idaho.*[1] C. LEWIS GAZIN, U. S. National Museum.

In 1934 the Smithsonian Institution expedition to southern Idaho was fortunate in securing unusually good material of the extinct peccary, *Platygonus*. These remains, together with those of a variety of other mammalian forms, were found in deposits considered to be of late Pliocene age, exposed along the west side of the Snake River near the town of Hagerman, Idaho.

Many fragmentary specimens were found at various localities in the deposits, but the most nearly complete specimens were obtained at a small quarry about 3 miles south of the *Plesippus shoshonensis* quarry (see fig. 9, p. 11, Explorations and field work of the Smithsonian Institution in 1934). The material from this locality includes an articulated skeleton of an adult animal, complete except for the left fore limb, and articulated portions of two young individuals, one of which includes the skull and lower jaws (Fig. 1).

The occurrence of *Platygonus* in the Pleistocene of North America is not rare, but remains of this form are not well known from upper Pliocene deposits and only the material from the Blanco formation (Gidley, 1903) of Texas and the Coso Mountains locality in California (Schultz, 1937) has been certainly referred to this genus. Peccary remains from the Benson locality in the San Pedro Valley of Arizona are also recognized as belonging to this genus, and certain fragmentary specimens from the Eden beds (Frick, 1921) and the upper Etchegoin deposits (Merriam, 1915) in California may possibly be *Platygonus*.

Platygonus pearcei, n. sp.

Type.—A nearly complete adult skeleton, U.S.N.M. no. 13800. Named for Mr. George B. Pearce who found the specimen designated as the type.

Locality.—T. 7 S., R. 13 E., about 3 miles south of Plesippus quarry, near Hagerman, Idaho.

Horizon.—Hagerman lake beds.

[1] Published by permission of the Secretary, Smithsonian Institution. Received November 11, 1937.

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Specific characters.—Size of skull slightly less than that of *Platygonus cumberlandensis*. Rostrum of skull elongate and slender. Cranium short.

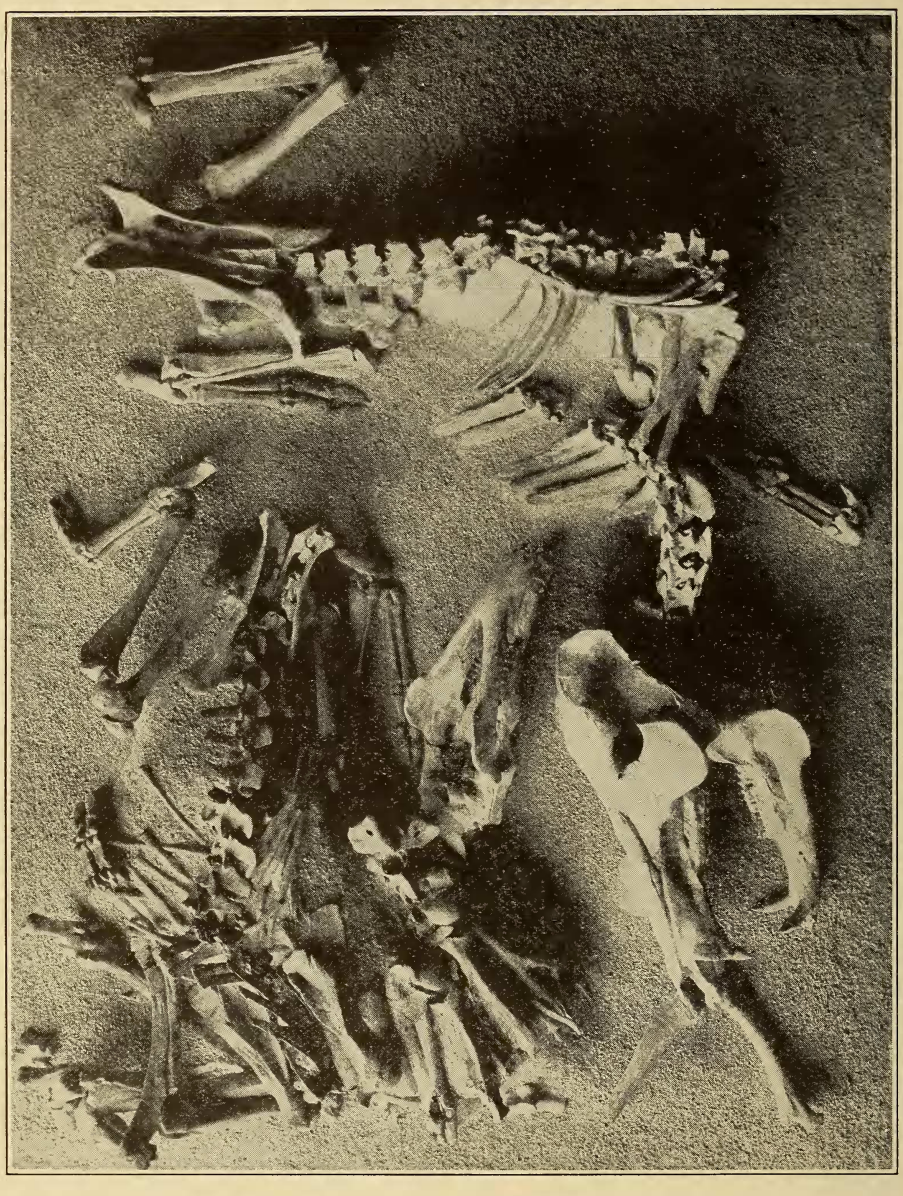

FIG. 1.—*Platygonus pearcei*, n. sp. Articulated skeletons prepared for exhibition as they occurred in the matrix. The adult skeleton, U.S.N.M. no. 13800, is the type of the species. About 13/100 natural size.

Articulation with lower jaw very low with respect to basicranium. No anteroventral projection or keel along symphysis of lower jaws. I_3 present.

Upper and lower canines slender. Cingula and accessory cuspules not strongly developed on cheek teeth. Inner and outer cusps of transverse lophs on molars more distinct than in *Platygonus cumberlandensis*. Heel or third lobe on M^3 and M_3 strong and simple. Third and fourth metacarpals not fused. Third and fourth metatarsals generally fused but not to the extent seen in *Platygonus cumberlandensis*.

Description of skull.—Species of *Platygonus* show considerable variation between individuals in proportions and characters of the skull, as observed in the material of *Platygonus cumberlandensis* from Maryland (Gidley, 1920; Gidley and Gazin, 1938) and as noted by Williston (1894, p. 23) in the *Platygonus leptorhinus* material. The skull of *Platygonus pearcei* is distinctly larger than those of *Platygonus leptorhinus* or *P. compressus* (LeConte, 1848 and Leidy, 1853), and is only slightly smaller though noticeably less robust than in *P. cumberlandensis*.

The skull of *P. pearcei*, U.S.N.M. no. 13800 (Figs. 2a and 2b) is of an advanced adult with well worn teeth and a slender, elongate rostrum, resembling specimens of *P. cumberlandensis* that have been regarded as female. The palatal surface is narrow and elongate though noticeably distorted by crushing. It is more distinctly concave between the canines than in *P. cumberlandensis* and extends considerably behind the last molar. The latter character is probably not significant, however, as the extent of the palate behind the dentition varies greatly in *P. cumberlandensis*.

The cranial portion appears relatively short by comparison with *P. cumberlandensis* and the temporal ridges converge more abruptly to the sagittal crest. The occiput is almost as high above the condyles as in *P. cumberlandensis* but the glenoid surfaces are placed below the orbits a distance equal to that in the more robust skulls of *P. cumberlandensis*. The development of the jugal below the orbit is comparable to that in fully mature female skulls of the Maryland form.

As compared with a skull (Am. Mus. no. 10388) of *Platygonus leptorhinus*, that of *P. pearcei* is considerably more elongate with a much deeper zygoma and a deeper occiput and cranium. The elongate rostrum may be shallower and perhaps narrower, although the width has been much reduced through crushing. The frontal area appears more convex and the glenoid surface is placed noticeably lower with respect to the condyles or basicranium. Also, the ridge or expansion along the lower margin of the jugal is carried farther forward on the rostrum than in *P. leptorhinus*, but not so markedly as in male specimens of *P. cumberlandensis*. Moreover, the occipital area is not so widely expanded dorsally with the lateral margins more nearly parallel.

The basicranial region is not well preserved in the skull of *P. pearcei*. The cancellous bullae are nearly obliterated and the basisphenoid and basioccipital are damaged. The basisphenoid in skulls of *Platygonus* are directed abruptly upward from the basioccipital in a nearly vertical direction as contrasted with the gentler slope of this element in the living peccaries. The external audital tube extends posterodorsally and slightly outward in a groove in the ascending wing of the squamosal. The posterior process of the tympanic overlaps to a marked extent the posterior surface of the squamosal and is firmly fused medially and posteriorly with the exoccipital.

As in recent peccaries, *Platygonus* possesses a foramen that opens ventrally in a position corresponding to that normally occupied by the postglenoid foramen. Dorsally the foramen opens anteroexternal and adjacent to the external auditory meatus. According to Van Kampen (1905), Pearson (1923), and others this foramen is not the postglenoid, although Rusconi

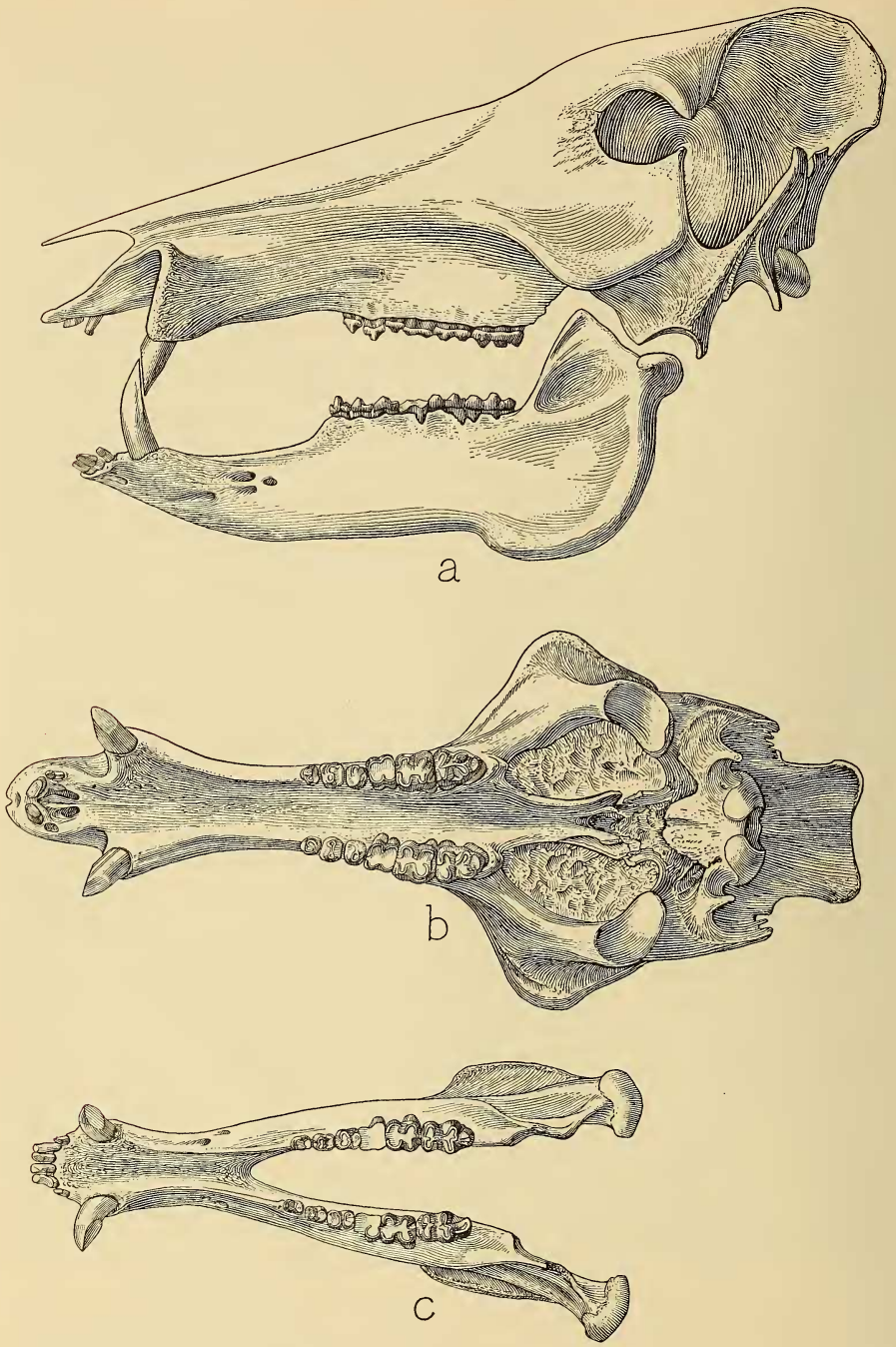

FIG. 2.—*Platygonus pearcei*, n. sp. Skull and mandible, type specimen, U.S.N.M. no. 13800; a, lateral view of skull and mandible; b, ventral view of skull; c, dorsal view of mandible. 3/10 natural size. Upper Pliocene, Hagerman, Idaho. Drawing by Sydney Prentice.

(1929) so regards it. The venous sytem communicating with the inner and outer portion of the cranium along the base of the tentorial plate drains ventrally through a small foramen or fissure between the margins of the alisphenoid and squamosal, lateral to the foramen ovale and adjacent to the bulla. This opening is conspicuous on the skull of *Platygonus pearcei* and its position is equivalent to that in *Pecari angulatus*. Functionally it more nearly corresponds to the postglenoid foramen.

The petrosal, which was found in position in the right side of the cranium, is noticeably larger than in living forms. When viewed from above and medially the most conspicuous feature is the prominent anterodorsal projection which joins the tentorial plate, although it does not fuse with it. In *Pecari* and *Tayassu* this process is much less developed. The hiatus facialis lies in the deep angular excavation formed between this process and the anteroventral apex. The floccular fossa, posterodorsal to the internal auditory meatus is also larger and much better defined. The prominence (eminentia arcuata) just below the floccular fossa, covering medially the aqueductus vestibuli, is well developed and is connected by a broad ridge with the process joining the tentorial plate. The slit-like aperture of the aqueductus cochleae is directly below the internal auditory meatus, on the lower margin of the petrosal.

In ventrolateral view of the petrosal the promontorium is no larger than in recent peccaries, and the fenestrae are similar in form and position. The fossa tensoris tympani is larger and the facial sulcus is larger and relatively deeper. Directly above the fenestra ovalis on the crista facialis is a clearly defined impression occupied by the crus breve of the incus. The incus was preserved although the other auditory ossicles were not found. This element is about one half larger than in *Pecari angulatus*, but is otherwise similar. A particularly noticeable feature in a lateral view of the petrosal is a conical prominence projecting nearly vertical from the dorsolateral portion of the bone, separate from the remaining slight mastoid portion. It rises from above the fossa for the tensor tympani, about over the ampula for the lateral and dorsal semicircular canals, and projects into an impression apparently in the squamosal. In *Pecari* the low ridge representing the mastoid portion does not exhibit the conical projection. In *Tayassu* this portion of the periodic is even less developed.

Mandible.—The mandible, no. 13800 (Figs. 2a and 2c) of *P. pearcei* shows the elongate anterior portion characterizing the skull. The length of the diastema between the canine and cheek teeth is nearly as great as in the longest of the *P. cumberlandensis* jaws. However, a second mandible, no. 13798 (Fig. 3), of a young adult *P. pearcei* exhibits a somewhat shorter diastema than in any of the *P. cumberlandensis* jaws with an adult dentition. The difference is probably not greater than might be attributed to the difference between an advanced adult female and a young male, as suggested by the *P. cumberlandensis* material. The elongate symphysial portion appears more procumbent than in *P. cumberlandensis* or *P. leptorhinus*, due in a large measure to the absence of the pronounced anteroventral projection or keel along the symphysis in this species. The lower surface of the symphysial portion is evenly rounded transversely. The depth of the mandible below the cheek teeth is noticeably great in no. 13800; this is variable in the Cumberland form. The lower portion of the angle does not flare outward so markedly as in either *P. cumberlandensis* or the specimen of *P. leptorhinus* (Amer. Mus. no. 10388). The margin of the angle is evenly curved and does not extend posteriorly with reference to the condyle as much as in *P.*

cumberlandensis. The anterior surface of the coronoid process is distinctly broader than in *P. cumberlandensis* and the apex is more acute. In *P. cumberlandensis* the apex of the coronoid is broad anteroposteriorly with a more pronounced dorsoposterior projection. The distance between the third molar and the condyle is greater in *P. pearcei* than in *P. leptorhinus*.

Dentition.—An important character in the dentition is seen in the persistence of the third lower incisor, characteristically absent in the Pleistocene species, although a small vestige of an alveolus for it was seen in one side of one of the lower jaws of *P. cumberlandensis*. Six lower jaws of *P. pearcei* have this portion preserved and show this tooth to be present and moderately developed. Its presence was also noted in the Coso Mountains material.

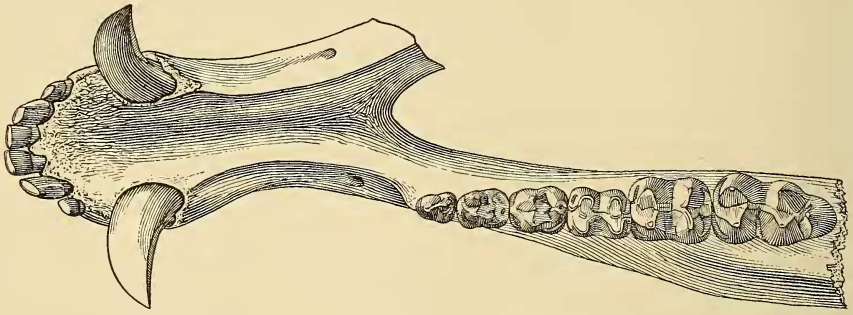

FIG. 3.—*Platygonus pearcei*, n. sp. Mandible, U.S.N.M. no. 13798, occlusal view showing cheek teeth of left ramus. 3/5 natural size. Upper Pliocene, Hagerman, Idaho. Drawing by Sydney Prentice.

The remaining incisors, upper and lower, show no important differences from those in the Pleistocene form. The canines are slenderer than in either *P. cumberlandensis* or *P. leptorhinus*. The upper and lower cheek teeth are somewhat smaller than the average in *P. cumberlandensis*, though larger than in *P. leptorhinus*, and are similar to those in *P. cumberlandensis* in the development of the transverse lophs, but with a slightly greater separation of the inner and outer cusps, more noticeable in the third molars. The cheek teeth exhibit fewer accessory cuspules than in the Cumberland form and the cingula are less prominent, particularly in the upper teeth. The third lobe of M_3 is a large but simple cusp, not showing the incipient cusps on either side usually present in *P. cumberlandensis*.

The cheek teeth in no. 13800 from Hagerman are smaller than those in the isolated jaws, no. 13798. A similar difference in size of the teeth, particularly in the robustness of the premolars was noted between specimens of *P. cumberlandensis*, sorted according to sex as presumed from the development of the zygomae. The larger premolars are generally associated with a shorter diastema and a more rugged, flaring development of jugal.

The heel of M_3 in *P. pearcei* is quite unlike that figured by Cope (1893, pl. 13, fig. 5) for *Platygonus bicalcaratus* of the Blanco formation of Texas. The tooth fragment described by Cope is much smaller, and relatively narrower through the portion considered as the second or posterior crest, moreover, the heel is made up of several relatively small cusps. The anterior portion of the Texas tooth is missing, this fact together with the character of the preserved portion strongly suggests that the fragment represents an

incomplete P_3 or P_4 rather than M_3. The heel portion of lower premolars in *Platygonus* is highly variable in character, and may be represented by a prominent portion of the cingulum to a heel fully as developed as that in the above tooth.

TABLE 1.—MEASUREMENTS OF SKULL AND MANDIBLE OF *Platygonus pearcei*

	U.S.N.M. no. 13800	U.S.N.M. no. 13798
Skull:		
Length of skull from premaxillae to top of occipital crest	396 mm	
Length of skull from premaxillae to occipital condyles	350*	
Distance from anterior extremity of premaxilla to postglenoid process	300*	
Distance from anterior extremity of premaxilla to postorbital process of frontal (oblique)	320*	
Width across postorbital processes	125*	
Greatest extent of jugal below orbit	68	
Distance from lower margin of orbit to glenoid surface	77	
Distance from middle of occipital crest to center of glenoid fossa	165	
Distance from occipital crest to lower margin of condyles	128*	
Greatest width across dorsal portion of occiput	63	
Mandible:		
Length from anterior extremity of symphysis to posterior margin of condyle	277*	
Length of symphysis	103	85 mm
Distance between M_3 and posterior margin of condyle	79	
Depth of jaw below M_1 (outside)	55*	45
Greatest distance between top of coronoid process and lower margin of angle	120*	
Height of mandible from condyle to base (table top)	100*	
Distance between inner margins of canine alveoli	25	19
Dentition:		
I^1–M^3, incl.	209*	
Diastema between C and P^2	76	
P^2–M^3, incl.	82	
P^2–P^4, incl.	29.3	
M^1–M^3, incl.	54.2	
P^4, anteroposterior diameter: transverse diameter	10.2:12.8	
M^3, anteroposterior diameter: transverse diameter	23:17	21.8:17
I_1–M_3, incl.	203*	187
Diastema between C and P_2	78	54
P_2–M_3, incl.	84.5	93.6
P_2–P_4, incl.	31.2	34.2
M_1–M_3, incl.	54	59.8
P_4, anteroposterior diameter: transverse diameter	11.4: 9.9	13.1:10.3
M_3, anteroposterior diameter: transverse diameter	25.2:14.5	27.3:15.5

* Approximate.

The upper dentition which Gidley (1903, pp. 477–478, fig. 1) referred to *P. bicalcaratus* includes much larger teeth than would be associated with an M_3 of the size figured by Cope. Considering this tooth as a lower premolar no disparity in size is apparent, but the specimen as a type has little diagnostic value.

The upper teeth of *P. pearcei* do not show the well isolated cross lophs seen in the upper dentition referred to *P. bicalcaratus*. Also M^3 has a moderately

developed heel not seen in the tooth which Gidley considered to be the third upper molar of *P. bicalcaratus*. The upper dentition in the type of *P. texanus* Gidley (1903, pp. 478–481, figs. 2, 5) has somewhat larger and relatively much wider molars than *P. pearcei*. Also, the cingula are better developed than in the Idaho teeth.

Limbs.—The bones of the fore and hind limbs are for the most part about the same length as in *P. cumberlandensis*, but slenderer, with smaller, distinctly narrower articular surfaces. The trochlea of the humerus is narrower and not as deep. The distance across the condyles on the femur is less and the ridges bounding the anterior portion of the trochlear articular surface are distinctly closer together. The head of the tibia is of less diameter and the cnemial crest is less outstanding.

The metacarpals and metatarsals, in keeping with their earlier geologic age, show a less advanced stage in the fusion between the third and fourth than do those of the Cumberland Cave form. None of the metacarpals in the Idaho material were found to be co-ossified, but several pairs in the Pleistocene material are fused. In the pes the third and fourth metatarsals are united in most cases but the co-ossification does not extend so far down the shafts as in *P. cumberlandensis*.

In a few instances the second metacarpals and metatarsals were found. In the articulated skeletons these splints are seen to be about two-thirds the length of the adjacent element in the manus and, though incomplete, at least one-half the length of the third metatarsal in the pes.

Remarks.—The record of *Platygonus* prior to upper Pliocene time is very incomplete. Fragmentary specimens from the Miocene and earlier Pliocene that have been referred to this genus in most cases were found later to represent *Prosthennops*. A tooth from the middle or upper Miocene which I (1932, p. 81) referred to *Platygonus* doubtless belongs to some form of *Thinohyus* or *Desmathyus*. As pointed out by Matthew (1924, pp. 177–178) *Desmathyus* in the Miocene probably stands in a relation intermediate between *Perchoerus* and *Platygonus*, but an appreciable hiatus still remains between the known forms of *Desmathyus* and *Platygonus*.

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PALEONTOLOGY.—*An alcyonarian from the Eocene of Mississippi.*[1]

SIDNEY J. HICKSON, Cambridge, England. (Communicated by WALDO L. SCHMITT.)

Prof. J. Magruder Sullivan, of Millsaps College, Jackson, Mississippi, found in the Moody marl of the Eocene Jackson group on Town Creek in the city of Jackson a very interesting specimen representing part of the axis of an alcyonarian. As the Alcyonaria are not frequently found in fossil state it is deemed worth-while to record this occurrence.

Eogorgia sullivani Hickson, n. gen. and sp.

Figs. 1–4

Description.—This specimen is about 170 mm in length by 25 mm in diameter and is cylindrical in shape. It consists of a series of concentric laminae of a calcareous substance mixed with grit and intercalated with an irregularly disposed black substance that is insoluble in acid. The surface is scored by a number of parallel grooves, with a slight spiral twist as regards

[1] Received December 7, 1937.